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EXAMINER

STULTZ, JESSICA T

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2873

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/944,318  
Filing Date: August 31, 2001  
Appellant(s): NAUTA ET AL.

Robert M. McDermott  
For Appellant

**EXAMINER'S ANSWER**

**MAILED**  
**MAY 23 2006**  
**GROUP 2800**

This is in response to the appeal brief filed May 2, 2006 appealing from the Office action mailed January 18, 2006.

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**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct, however, after further consideration, the 102 (b) rejection of claims 2-4, 6-7, and 22 over Jelley et al '027, has been withdrawn as shown in Section #10 of this action.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,377,027	JELLEY ET AL	12-1994
6,325,553	DEACON ET AL	12-2001

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 8-9, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Jelley et al US 5,377,027, herein referred to as Jelley et al'027.

Regarding claim 1, Jelley et al '027 discloses a display device comprising a display panel having a first light-transmissive substrate provided with electrodes at the area of pixels arranged in rows and columns (Column 2, lines 22-68, wherein the first transparent substrate is "24" with electrodes "30" corresponding to pixels "36", Figures 1-2), a second light-transmissive substrate (Column 2, lines 22-68, wherein the second transparent substrate is "22", Figures 1-2), and electro-optic material (Column 2, lines 22-68, wherein the electro-optic material is liquid crystal material "20", Figures 1-2) between the two substrates (Figures 1-2), and an illumination system situated on the side of the second substrate remote from the electro-optical material, the illumination system including an optical waveguide of optically transparent material having an exit face facing the display panel (Column 3, lines 25-41, wherein the illumination device is "14" including transparent polymeric waveguide "40" with an exit face "48", Figures 1-2) and wherein the waveguide is adapted for selectively coupling out light (Column 3, line 25-Column 4, line 55, wherein the illumination for waveguide "40" is provided by individually selected

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emission of diodes "52", "54", and "56", which provide light to respective output sites "48" and therefore couple the light from the diodes through the waveguide, Figures 1-2) for a group of rows of pixels or a group of columns of pixels (Column 3, line 25-Column 4, line 55, wherein the waveguide "40" is coupled to pixels "36" and selectively illuminates rows and columns of the pixels "36" from respective sites "48", Figures 1-2) and for coupling in light in a direction which is substantially parallel to the exit face (Column 3, line 25-Column 4, line 55, wherein the light "58" is coupled to waveguide "40" through the edge "50" which is parallel to the exit face "48", as shown in Figures 1-2).

Regarding claim 5, Jelley et al '027 further discloses that the illumination system includes sub-segments (Column 5, line 51-Column 6, line 31, wherein the waveguide "102" is broken down into sub-segments as shown in Figure 4) and a backlight with an entrance face for the sub-segments (Column 1, lines 40-57, wherein the liquid crystal is illuminated by a backlight, and Column 5, line 51-Column 6, line 31, wherein the waveguide "102" receives light from a backside illuminator "100", Figures 1-2 and 4), while light from the backlight can be coupled into the sub-segments (Shown in Figure 4).

Regarding claim 8, Jelley et al '027 further discloses that the switch includes an electro-optical switching device (Column 3, lines 1-24 and Column 4, lines 31-54, wherein the pixels are selectively adjusted by selective electrical potentials, Figures 1-2) with an electro-optic material between the substrates (Column 2, lines 22-68, wherein the electro-optic material is liquid crystal material "20", Figures 1-2), wherein at least one substrate has strip-shaped electrodes (Figure 1, wherein the electrodes are "30").

Regarding claim 9, Jelley et al '027 further discloses that the illumination system includes a backlight having an entrance face for light into the optical waveguide to be coupled into an entrance face extending transversely to the exit face (Column 1, lines 40-57, wherein the liquid crystal is illuminated by a backlight, and Column 5, line 51-Column 6, line 31, wherein the waveguide "102" receives light from a backside illuminator "100", Figures 1-2 and 4), wherein parts of the backlight are selectively switchable between an on-state, having high intensity, and an off-state (Column 3, lines 1-24 and Column 4, lines 31-54, wherein the pixels are selectively adjusted by selective electrical potentials, Figures 1-2).

Regarding claim 11, Jelley et al '027 further discloses that the display unit includes a drive unit capable of presenting signals to data and column electrodes for the purpose of writing pixels, and selectively activating a part of the illumination system associated with the group of rows of pixels (Column 3, lines 1-24 and Column 4, lines 31-54, wherein the pixels are selectively adjusted by selective electrical potentials to the electrodes "30", Figures 1-2).

Regarding claim 12, Jelley et al '027 discloses a display device as shown above, but does not specifically disclose that the drive unit introduces a delay between the presentation of signals to the data and column electrodes and the selective activation of the part of the illumination system associated with the group of rows of pixels. However, it is inherent that a delay would be introduced, this being reasonably based upon the fact that the electrical signals must pass through wires to the electrodes and therefore a delay would occur between the initiation of the signal and the activation of the illumination system.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jelley et al '027 in view of Deacon et al US 6,325,553, herein referred to as Deacon et al '553.

Regarding claim 10, Jelley et al '027 discloses a display device as shown above, but does not specifically disclose that the backlight comprises a prismatic element. Deacon et al '553 teaches of a laser array to illuminate a waveguide for a display wherein prismatic structures are used to increase the efficiency of the connection between the laser diode array and the waveguide (Column 20, lines 28-53). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the display device of Jelley et al '027 to further include the backlight comprising a prismatic element since Deacon et al '553 teaches of laser array to illuminate a waveguide for a display wherein prismatic structures are used to increase the efficiency of the connection between the laser diode array and the waveguide.

**(10) Response to Argument**

Appellant's argument against the 102 (b) rejection of independent claim 1 is that the optical waveguide of the Jelley et al '027 reference is not adapted for selectively coupling light to the display panel for a group of rows of pixel, or a group of columns of pixels. The examiner disagrees since Jelly et al '027 reference discloses selectively addressing groups of pixels by

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selective emission of laser diodes and selectively addressing pixels through specific output sites (Column 3, line 25-Column 4, line 55). The examiner asserts that the Jelley et al '027 reference discloses a waveguide adapted for selectively coupling out light (Column 3, line 25-Column 4, line 55, wherein the illumination for waveguide "40" is provided by individually selected emission of diodes "52", "54", and "56", which provide light to respective "48", Figures 1-2) for a group of rows of pixels or a group of columns of pixels (Column 3, line 25-Column 4, line 55, wherein the waveguide "40" is coupled to pixels "36" and selectively illuminates rows and columns of the pixels "36" from respective sites "48", Figures 1-2). Therefore the Jelley et al '027 reference discloses selective coupling of light to the display panel for a group of pixels by selective emission of the laser diodes and selectively addressing pixels through specific output sites.

Appellant's argument against the 103 (a) rejection of dependent claim 10 over Jelly et al '027 in view of Deacon et al '553 is considered mute since there is no argument regarding the combination of Jelly et al '027 and Deacon et al '553 to show the use of a prismatic element in the system. Therefore the 103 (a) rejection of claim 10 over Jelly et al '027 in view of Deacon et al '553 remains as shown above.

Appellant's argument against the 35 U.S.C. 102 (b) rejection, with respect to dependent claims 2-4 (and therefore dependent claim 22) and claim 6 (and therefore dependent claim 7), is that the Jelley et al '027 reference does not disclose a selectively switchable light switch that is situated between the backlight and an entrance face of the waveguide. This argument has been fully considered and found persuasive. The Examiner's basis for allowability of dependent



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claims 2-4, 6-7, and 22 can be found below. The rejection of claims 2-4, 6-7, and 22 has been withdrawn.

***Allowable Subject Matter***

Claims 2-4, 6-7, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowable subject matter: none of the prior art alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103.

Specifically regarding claims 2-4 and 22, none of the prior art alone or in combination disclose or teach of a display device having first and second light-transmissive substrates, an illumination system including a backlight, and an optical waveguide adapted for selectively coupling out light to the display panel for a group of rows of pixels or a group of columns of pixels as disclosed, specifically wherein the illumination system includes a selectively switchable light switch situated between the backlight and the entrance face of the waveguide.

Specifically regarding claims 6-7, none of the prior art alone or in combination disclose or teach of a display device having first and second light-transmissive substrates, an illumination system including a backlight, and an optical waveguide adapted for selectively coupling out light to the display panel for a group of rows of pixels or a group of columns of pixels as disclosed, specifically wherein the illumination system includes selectively switchable light switches situated between the backlight and segments of the optical waveguide.

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**(11) Related Proceeding(s) Appendix**

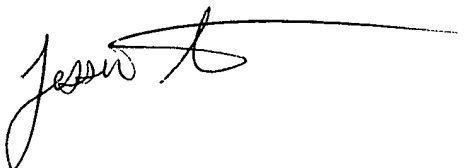
No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jessica Stultz

May 24, 2006

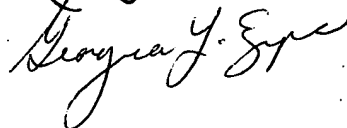


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